

WHAT IS CLAIMED IS:

1. A grinding-band swaying device for a band grinding machine, said band grinding machine having a worktable on a machine base, an upper frame positioned on the worktable, two upright rollers positioned at two ends of said upper frame, one of said two rollers separated from said upper frame and connected with and driven by a motor, an endless grinding band extending around and moved by said two rollers, said grinding band grinding a work placed vertically on said worktable, said grinding-band swaying device comprising:

A pivotal plate provided near said machine base and connected with said motor, said pivotal plate pivotally connected with a corresponding wall of said machine base, said pivotal plate combined with an elastic compressing unit at a preset location, said elastic compressing unit elastically urging said motor towards said machine base, said motor having an upper spindle extending up from its top and a lower spindle extending down from a bottom, said upper spindle connected with a shaft of said roller:

A speed-reducing unit positioned under said motor and connected with and driven by said lower spindle, said speed-reducing unit diminishing the rotating speed of said lower spindle and transmitting it to a shaft:

An eccentric wheel fixed on and driven by the

shaft of said speed-reducing unit, said eccentric wheel keeping elastic compressing against a wall of said machine base by elastic pressing of said motor against said machine base:

5        Said eccentric wheel overcoming the elastic pressing of said elastic compressing unit to force said speed-reducing unit, said motor and said roller sway outward when said eccentric wheel rotates, said eccentric wheel also swaying inward by recovery of the 10 elasticity of said elastic compressing unit so that said eccentric wheel may force said speed-reducing unit, said motor and said roller sway upward and downward regularly (in other words, reciprocate).

2.        The grinding-band swaying device for a 15 band grinding machine as claimed in Claim 1, wherein said speed-reducing unit consists of a shell fitting firmly around a lower portion of said motor, a bottom cap closed up the bottom of said shell, a transmission unit arranged in said shell, said transmission unit 20 having gears and endless belts for transmitting rotating force and for reducing rotating speed, a last one of said gears having a shaft extending up through said shell and driving said eccentric wheel to rotate, a first one of said gears having its shaft extending down 25 to said bottom cap and sliding thereon to control tightness of said endless belts.

3.        The grinding-band swaying device for a

band grinding machine as claimed in Claim 1, wherein  
said elastic compressing unit consists of a position  
bolt extending from said pivotal plate connected with  
said motor to the inner side of said wall of said  
5 machine base, a coil spring fitting around an inner  
portion of said position bolt inside said wall, a nut  
screwing with an end of said bolt and compressing said  
coil spring so said coil spring always urges against an  
inner surface of said wall of said machine base, thus  
10 said motor and the connecting components kept  
elastically urging towards said machine base.

4. The grinding-band swaying device for a  
band grinding machine as claimed in Claim 1, wherein  
said elastic compressing unit is provided on said  
15 speed-reducing unit, consisting of a shaft with one  
end connected with a preset location of said wall of  
said machine base and with the other end extending  
through and out of said pivotal plate with a coil spring  
fitting around the outer portion and then screwing  
20 tightly with a nut so that said coil spring may always  
elastically compress said pivotal plate together with  
said speed-reducing unit and the connecting  
components on said same unit toward said machine  
base.